

FEDERAL AVIATION ADMINISTRATION
FLIGHT STANDARDS SERVICE
RNAV (GPS) STANDARD INSTRUMENT APPROACH PROCEDURE
TITLE 14 CFR PART 97.33

Bearings, headings, courses, tracks and radials are magnetic. Elevations and altitudes are in feet, MSL, except HAT, HAA, TCH, and RA. Altitudes are minimum altitudes unless otherwise indicated.
Ceilings are in feet above airport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or feet RVR.

<u>AIRPORT</u> SOUTH BEND INTL	<u>AIRPORT ID</u> KSBN	<u>PROCEDURE NAME</u> RNAV (GPS) RWY 9R	<u>ORIGINAL/AMENDMENT</u> 1	<u>CITY</u> SOUTH BEND	<u>STATE</u> IN
<u>AIRPORT ELEVATION</u> 798	<u>TDZE</u> 790	<u>SUPERSEDED</u> RNAV (GPS) RWY 9R	<u>ORIGINAL/AMENDMENT</u> ORIG-A	<u>DATED</u> 05/24/2005	<u>MAG VAR</u> 3W
<u>FACILITY</u> RNAV	<u>COORDINATES OF FACILITIES</u>	<u>ACTUAL EFFECTIVE DATE</u> 8 NOVEMBER 2018	<u>REQUIRED EFFECTIVE DATE</u> ROUTINE	<u>CANCEL SUSPEND</u>	<u>EPOCH YEAR</u> 1985

TERMINAL ROUTES

<u>FROM</u>	<u>FIX TYPE</u>	<u>TO</u>	<u>FIX TYPE</u>	<u>LEG TYPE</u>	<u>FO/FB</u>	<u>RNP</u>	<u>COURSE</u>	<u>DISTANCE</u>	<u>ALTITUDE</u>
MAPER		AROYA		TF	FB	2.00	157.93	15.58	2600
NOMES		YIBUC		TF	FB	2.00	326.94	6.24	2600
AROYA	IAF	ZAPPY	NOPT	TF	FB	1.00	181.70	5.60	2600
YIBUC	IAF	ZAPPY	NOPT	TF	FB	1.00	001.70	5.60	2600
ZAPPY	IF/IAF	ANUCO		TF	FB	1.00	091.70	6.01	2600
ANUCO	FAF	RW09R	MAP	TF	FO	0.30	091.71	5.51	
RW09R	MAP	990 MSL		CA			091.71		
990 MSL		ISUYO		DF	FO	1.00			2600

MISSED APPROACH

MAP:

LPV: DA
LNAV/VNAV: DA
LNAV: RW09R

MISSED APPROACH INSTRUCTIONS:

CLIMB TO 2600 DIRECT ISUYO AND HOLD.

ALTERNATE MISSED APPROACH INSTRUCTIONS:



PROFILE:

1. PT

SIDE OF COURSE

OUTBOUND

FT WITHIN

MILES OF (IAF)

2. HOLD W ZAPPY, RT, 091.70 INBOUND, 2600 FT. IN LIEU OF PT (IAF), MAX 6000.

3. FAC: 091.71 FAF: ANUCO DIST FAF TO MAP: 5.51 DIST FAF TO THLD: 5.51

4. MIN ALT: ZAPPY 2600, ANUCO 2600

5. DIST TO THLD FROM OM: MM: IM: 150 HAT: 200 HAT: 0.46 GS ANT: MM: IM:

6. MIN GP INCPT: 2600 GP ALT AT FAF : ANUCO 2600 OM:

7. GP ANGLE: 3.00 34:1: IS NOT CLEAR 20:1: IS CLEAR TCH: 54.8

8. MSA FROM: RW09R 3000

PBN REQUIREMENTS NOTES:

RNP APCH.

NOTES:

CHART NOTE: RWY 9R HELICOPTER VISIBILITY REDUCTION BELOW 3/4 SM NOT AUTHORIZED.
CHART NOTE: INOPERATIVE TABLE DOES NOT APPLY TO LPV ALL CATS.
CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -19C OR ABOVE 54C.
CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS AT MAPER ON V526 NORTHWEST BOUND.
CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS AT NOMES ON V8-92-126 EASTBOUND AND V156 SOUTHWEST BOUND.
FOR INOPERATIVE ALS, INCREASE LNAV CAT A/B VISIBILITIES TO RVR 5500, AND CAT C/D TO RVR 6000.

ADDITIONAL FLIGHT DATA:

CHART CIRCLING ICON.
CHART VDP AT 1.12 NM TO RW09R*
*LNAV ONLY
WAAS CHANNEL #60908
REFERENCE PATH ID: W09A
CHART FAS OBST: 936 TREE 414213N/0862116W.
HOLD E, RT, 271.96 INBOUND
LTP HAE: 207 M

MINIMUMS:

TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT

ALTERNATE: NA ☐ STANDARD - CAT D 800-2 1/4

CATEGORY:	A			B			C			D			E		
FINAL TYPE	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA
LPV DA	990	4000	200	990	4000	200	990	4000	200	990	4000	200			
LNAV/VNAV DA	1222	4000	432	1222	4000	432	1222	4000	432	1222	4000	432			
LNAV MDA	1200	4000	410	1200	4000	410	1200	4000	410	1200	4000	410			
CIRCLING	1280	1	482	1280	1	482	1440	1 3/4	642	1500	2 1/4	702			



AIRPORT	AIRPORT ID	PROCEDURE NAME	ORIGINAL/AMENDMENT	CITY	STATE
SOUTH BEND INTL	KSBN	RNAV (GPS) RWY 9R	1	SOUTH BEND	IN

CHANGES - REASONS

1. CHANGED TERMINAL ROUTE MAPER TO AROYA COURSE/DISTANCE FROM 158.57/16.17 TO 157.93/15.58. - PROCEDURE REDESIGN ADJUSTED FIX LOCATIONS WHICH AFFECTED COURSES/DISTANCES.
2. CHANGED TERMINAL ROUTE NOMES TO YIBUC COURSE/DISTANCE FROM 330.42/6.68 TO 326.94/6.24. - PROCEDURE REDESIGN ADJUSTED FIX LOCATIONS WHICH AFFECTED COURSES/DISTANCES.
3. CHANGED FIX TOKOC TO FIX ZAPPY. - ATC REQUESTED FIX NAME CHANGE.
4. CHANGED TERMINAL ROUTE FROM AROYA - TOKOC TO AROYA - ZAPPY. - FIX NAME CHANGED AT REQUEST OF ATC.
5. CHANGED TERMINAL ROUTE FROM YIBUC - TOKOC TO YIBUC - ZAPPY. - FIX NAME CHANGED AT REQUEST OF ATC.
6. CHANGED TERMINAL ROUTE AROYA TO ZAPPY (FORMERLY AROYA TO TOKOC) COURSE/DISTANCE FROM 181.61/5.00 TO 181.70/5.60. - PROCEDURE REDESIGN ADJUSTED FIX LOCATIONS WHICH AFFECTED COURSES/DISTANCES.
7. CHANGED TERMINAL ROUTE YIBUC TO ZAPPY (FORMERLY YIBUC TO TOKOC) COURSE/DISTANCE FROM 001.61/5.00 TO 001.70/5.60. - PROCEDURE REDESIGN ADJUSTED FIX LOCATIONS WHICH AFFECTED COURSES/DISTANCES.
8. CHANGED TERMINAL ROUTE ZAPPY TO ANUCO (FORMERLY TOKOC TO ANUCO) COURSE/DISTANCE FROM 091.61/6.01 TO 091.70/6.01. - PROCEDURE REDESIGN ADJUSTED FIX LOCATIONS WHICH AFFECTED COURSES/DISTANCES.
9. CHANGED TERMINAL ROUTE ANUCO TO RW09R COURSE/DISTANCE FROM 091.70/5.43 TO 091.71/5.51. - DISTANCE TO REACH FAF ALTITUDE OF 2600 FT CALCULATED TO BE 5.51 NM USING MOST CURRENT AIRPORT DATA; REDESIGN ADJUSTED FIX LOCATIONS WHICH CHANGED COURSE BY ONE ONE-HUNDREDTH OF A DEGREE.
10. CHANGED TERMINAL ROUTE FROM RW09R TO 1190 MSL TO RW09R TO 990 MSL. - INITIAL CLIMB TO LOWEST DA OR 400' ABOVE AIRPORT ELEVATION; LOWEST DA NOW 990 MSL.
11. CHANGED LINE 2 FROM HOLD W TOKOC, RT, 091.61 INBOUND, 2600 FT. IN LIEU OF PT (IAF) (40E) (41E) (43C) TO HOLD W ZAPPY, RT, 091.70 INBOUND 2600 FT INLIEU OF PT (IAF), MAX 6000. - FIX NAME CHANGED AS DOCUMENTED IN CHANGE #3, INBOUND COURSE CHANGED WITH PROCEDURE REDESIGN.
12. CHANGED LINE 3 FAC FROM 091.70 TO 091.71. - FAF RELOCATED 0.09 NM WEST; NEW ADJUSTED FAF LOCATION LAT/LONGS CALCULATED AN ADJUSTMENT OF ONE ONE-HUNDREDTH OF A DEGREE.
13. CHANGED LINE 3 DIST FAF TO MAP AND DIST FAF TO THLD FROM 5.43 NM TO 5.51 NM. - DISTANCE TO REACH FAF ALTITUDE OF 2600 FT CALCULATED TO BE 5.51 NM USING MOST CURRENT AIRPORT DATA.
14. CHANGED LINE 4 MIN ALT FROM TOKOC 2600, ANUCO 2600 TO ZAPPY 2600, ANUCO 2600. - TOKOC FIX NAME CHANGED TO ZAPPY AS DOCUMENTED IN CHANGE #3.
15. ADDED ANUCO 2600 TO GP ALT AT FAF ON LINE 6. - REQUIRED DOCUMENTATION PER 8260.19H.
16. CHANGED TCH FROM 52.7 TO 54.8 ON LINE 7. - TCH ADJUSTED TO MATCH GLIDEPATH OF RWY 9R ILS PROCEDURE; ILS TCH CHANGED TO 54.817 FT.
17. CHANGED ADDITIONAL FLIGHT DATA NOTE FROM DISTANCE TO THLD FROM 400 HAT: 1.09 NM TO DIST TO THLD FROM 200 HAT: 0.46. - FINAL APPROACH OBSTACLE REMOVAL ALLOWED FOR LOWERING LPV MINIMA TO 200 FT HAT (REASON FOR PROJECT).
18. REMOVED CHART NOTE DME/DME RNP-0.3 NA. - NOTE NO LONGER APPLICABLE IAW NOTE & FORMATTING GUIDELINES AS OUTLINED IN 8260.19H.
19. ADDED PBN EQUIPMENT REQUIREMENT NOTE: RNP APCH. - NEW NOTE REQUIRED IAW NOTE & FORMATTING GUIDELINES AS OUTLINED IN 8260.19H.
20. ADDED CHART NOTE: RWY 9R HELICOPTER VISIBILITY REDUCTION BELOW 3/4 SM NOT AUTHORIZED. - 34:1 PENETRATIONS EXIST FOR RWY 9R.
21. CHANGED CHART NOTE FROM BARO-VNAV NA BELOW -19C TO FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -19C OR ABOVE 54C. - NEW TEMPERATURE VALUES CALCULATED BASED ON 5-YEAR WEATHER DATA COMPILED FROM 2013-2017.
22. ADDED CHART CIRCLING ICON TO ADDITIONAL FLIGHT DATA. - NEW CIRCLING CRITERIA APPLIED/EVALUATED, QUALIFYING PROCEDURE FOR CIRCLING ICON NOTE.
23. CHANGED ADDITIONAL FLIGHT DATA NOTE FROM CHART VDP AT 1.38 NM TO RW09R TO CHART VDP AT 1.12 NM TO RW09R. - CHANGES TO PROCEDURE STRUCTURE CALCULATED VDP .26 NM CLOSER TO THLD.
24. CHANGED FAS OBST FROM 1149 TOWER 414338N/0862430W, 933 TREE (KSBN0025) 414217N/0862048W TO 936 TREE 414213N/0862116W. - OBSTACLE MITIGATION AND TREE GROWTH RESULTED IN NEW NON-PRECISION FINAL CONTROLLING OBSTACLE.
25. CHANGED CHART NOTE FROM: "INOPERATIVE TABLE DOES NOT APPLY TO LPV AND LNAV/VNAV ALL CATS AND LNAV CAT C" TO "INOPERATIVE TABLE DOES NOT APPLY TO LPV ALL CATS." - MOST CURRENT VISIBILITY TOOL USED TO DETERMINE INOPERATIVE TABLE APPLICABILITY.
26. CHANGED LPV DA/HAT FROM 1190/400 TO 990/200. - OBSTACLE MITIGATION ELIMINATED LPV FINAL APPROACH PENETRATIONS, ENABLING 200 FT HAT.
27. CHANGED LPV VISIBILITY FROM 1 1/2 SM TO RVR 4000 - OBSTACLE MITIGATION ELIMINATED LPV FINAL APPROACH PENETRATIONS, ENABLING 200 FT HAT WHICH REDUCED THE VISIBILITY AS CALCULATED USING NEWEST VISIBILITY CRITERIA FROM 8260.3C SECTION 3-3 AND ASSOCIATED VISIBILITY MINIMUM TABLES.
28. CHANGED LNAV/VNAV DA/HAT FROM 1280/490 TO 1222/432. - NEW CONTROLLING OBSTRUCTION & NEWLY CALCULATED AIRPORT ELEVATION RESULTED IN DIFFERENT DA/HAT.
29. CHANGED LNAV/VNAV VISIBILITY ALL CATS FROM 1 3/4 SM TO RVR 4000. - VISIBILITIES CALCULATED USING NEWEST VISIBILITY CRITERIA FROM 8260.3C SECTION 3-3 AND ASSOCIATED VISIBILITY MINIMUM TABLES.
30. CHANGED LNAV MDA/HAT FROM 1280/490 TO 1200/410. - NEW CONTROLLING OBSTRUCTION & NEWLY CALCULATED AIRPORT ELEVATION RESULTED IN DIFFERENT MDA/HAT.
31. CHANGED LNAV CAT C VISIBILITY FROM 1 1/4 SM TO RVR 4000. - VISIBILITIES CALCULATED USING NEWEST VISIBILITY CRITERIA FROM 8260.3C SECTION 3-3 AND ASSOCIATED VISIBILITY MINIMUM TABLES.
32. CAT C CIRCLING MDA/HAA CHANGED FROM 1280/481 TO 1440/642. - NEW CONTROLLING OBSTRUCTION & NEWLY CALCULATED AIRPORT ELEVATION RESULTED IN DIFFERENT MDA/HAA.
33. CAT D CIRCLING MDA/HAA CHANGED FROM 1280/490 TO 1500/702. - NEW CONTROLLING OBSTRUCTION & NEWLY CALCULATED AIRPORT ELEVATION RESULTED IN DIFFERENT MDA/HAA.
34. CHANGED CAT A/B CIRCLING VISIBILITIES FROM 1 3/4 SM TO 1 SM. - VISIBILITIES CALCULATED USING NEWEST VISIBILITY CRITERIA FROM 8260.3C SECTION 3-3 AND ASSOCIATED VISIBILITY MINIMUM TABLES.
35. CHANGED CAT D CIRCLING VISIBILITY FROM 2 SM TO 2 1/4 SM. - VISIBILITIES CALCULATED USING NEWEST VISIBILITY CRITERIA FROM 8260.3C SECTION 3-3 AND ASSOCIATED VISIBILITY MINIMUM TABLES.
36. CHANGED CRC REMAINDER FROM 3A5FA17F TO 25DF8A26 - CHANGE IN DATA.



COORDINATED WITH:

A4A ☒ ALPA ☒ AOPA ☒ APA ☒ HAI ☐ NBAA ☒ OTHER: ZAU ARTCC, SBN ATCT, AMGR, ATA

FLIGHT CHECKED BY	<i>Digitally signed by</i>	OFFICE	DATE	
JOHN R CLOUGH	ROBERT G HAMILTON	FICO	8/31/18	
	Sep 05, 2018			
DEVELOPED BY	<i>Digitally signed by</i>	OFFICE	DATE	
JOSHUA LEETE	ROBERT G HAMILTON	AJV-5422	06/13/2018	
	Sep 05, 2018			
APPROVED BY	<i>Digitally signed by</i>	OFFICE	DATE	TITLE
JULIE MORGAN	ROBERT G HAMILTON	AJV-5420		MANAGER
	Sep 05, 2018			



FAS DATA BLOCK INFORMATION

DATA FIELD	DATA
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	KSBN
RUNWAY	RW09R
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W09A
LTP/FTP LATITUDE	414215.5805N
LTP/FTP LONGITUDE	0861945.8975W
LTP/FTP ELLIPSOIDAL HEIGHT	+00207
FPAP LATITUDE	414217.4465N
FPAP LONGITUDE	0861746.9715W
THRESHOLD CROSSING HEIGHT (TCH)	00054.8
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.00
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	0192
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	35.0
CRC REMAINDER	25DF8A26
ADDITIONAL PATH POINT RECORD INFORMATION	
ICAO CODE	K5
LTP ORTHOMETRIC HEIGHT	+02407
FPAP ORTHOMETRIC HEIGHT	+02407

